1885MNRAS..46...65P

Mr. Tannien, another assistant, made a partial enumeration of the meteors visible with the following results :—

G.M.T.	Number of Meteors visible per minute.	G.M.T.	Number of Meteors visible per minute.
h m		h m	
6 24	 60	7 1	 74
6 36	 100	8 9	 9

Mr. Urquhart continued counting without interruption the number of meteors visible from 5^h 58^m till 7^h 50^m, embracing an interval of one hour and fifty-two minutes, and obtained 5,806 as the aggregate number of meteors visible. From what I have seen of such apparitions I am inclined to think that the number of meteors actually visible from the Glasgow Observatory during the interval to which I refer was at least four times as great as this number.

It has been my good fortune to have seen from this Observatory the great meteor shower of November 13, 1866, and also the meteor shower of November 27, 1872, in both instances under exceptionally favourable circumstances, and at the time of the recent shower I was naturally led to institute a comparison between the brilliant apparition then visible and the two preceding displays. The shower of the *Leonides* appeared to me to be beyond comparison the grandest of the three apparitions both in respect to the abundance and the magnitude of the meteors. On the other hand the recent apparition of the *Andromedes* offered a most striking resemblance in every respect to its brilliant predecessor of 1872.

The Biela Meteor Shower of November 27, 1885. By Prof. C. Pritchard, D.D., F.R.S.

Preparations were duly made at the University Observatory for recording what might occur in relation to the expected *Andromeda* meteors. Specially it was proposed to watch the neighbourhood of the radiant through a 4-inch telescope with a low power eye-piece, giving a field of about 50′ diameter.

The sky was generally fitful, never being wholly without cloud and frequently overcast. Slight rain fell at 9 P.M., and at intervals between that hour and 2 A.M.

Very many meteors were reported as flying about the sky by pedestrians in the city, as soon as it became sufficiently dark. The first count at the Observatory was made by the two assistants from 6 to 6.10 P.M., the one looking on the eastern sky and the other on the western. During this period sixty were counted,

Downloaded from http://mnras.oxfordjournals.org/ at University of North Dakota on May 29, 2015

© Royal Astronomical Society • Provided by the NASA Astrophysics Data System

1885MNRAS..46...65P

but with the certainty that many had escaped notice. Their character was in general fleecy and small. Five of them were observed to pass over the square of *Pegasus* parallel to the diagonal joining *α Andromeda* to *α Pegasi*. The sky then became too cloudy to continue counting.

Between $6^h\ 34^m$ and $6^h\ 39^m$ G.M.T., when the sky had partially cleared, 102 were counted towards the eastern side and 149 on the western. The sky was then scrutinised through the 4-inch telescope in the neighbourhood of the presumed radiant. Not a single short meteor or evanescent star-like outburst was seen, though the sky was then at its clearest. Comparing the result with my recollection of the November meteors in 1866, the total absence of the expected phenomenon is worthy of notice.

Between $7^h\ 14^m$ and $7^h\ 19^m$ there were counted 104 on the eastern sky and 201 on the western. No meteors were seen apparently brighter than *Sirius*. Six bright meteors, of approximately the brightness of stars of the 1st magnitude, observed by Mr. Plummer between $6^h\ 53^m$ and $8^h\ 15^m$, gave the radiant near *ω Andromedæ* (R.A. 21°, N.P.D. 45°), which agreed with the general impression derived from the other meteors. Mr. Jenkins, from his observations, regarded the radiant as a little more easterly, viz. about R.A. 23°, and N.P.D. 46°. No further available observations were possible during the remainder of the night, owing to the general prevalence of clouds and rain.

University Observatory, Oxford:
1885, *Dec.* 10.

On the Meteoric Shower of November 27, 1885.

By Ralph Copeland, Ph.D.

On the night of November 27, 1878, Lord Lindsay (now Lord Crawford) and the writer watched at Dun Echt for the greater part of eight hours for any possible return of the Biela meteors of 1872. As far as the meteors in question were concerned, the immediate result was almost altogether negative, for scarcely a single shooting-star was seen which could be referred to a radiant in *Andromeda*. The conclusion, however, was obvious, that the meteors were not, by any means, distributed round the whole orbit of the lost comet. But by taking the comet's period at 6 years and 202 days, as given in the appendix to Herschel's *Outlines of Astronomy*, 11th edition, it became evident that in 1885, November 27, would fall only 40 days short of two periods elapsed since the grand display in 1872, and would afford the best chance that could occur during the remainder of

Downloaded from http://mnras.oxfordjournals.org/ at University of North Dakota on May 29, 2015

© Royal Astronomical Society • Provided by the NASA Astrophysics Data System